

Title (en)  
PLL circuit

Title (de)  
PLL-Schaltung

Title (fr)  
Circuit PLL

Publication  
**EP 1184988 A3 20040331 (EN)**

Application  
**EP 01250289 A 20010807**

Priority  
JP 2000243167 A 20000810

Abstract (en)  
[origin: EP1184988A2] Disclosed is a PLL circuit that makes fractional frequency division possible without causing spurious components to be produced in the output of a VCO. The PLL circuit comprises a frequency dividing circuit (15) for frequency-dividing the output of a VCO (14); a phase adjusting circuit (16), to which are input two clocks of different phases obtained by frequency division performed by the frequency dividing circuit, for producing an output signal having a delay time defined by a time that is the result of internally dividing a timing difference between the two clocks; a charge pump (12) for generating a voltage conforming to a phase difference output from the phase comparator circuit (11); and a loop filter (13) for smoothing the voltage conforming to the phase difference and applying the voltage to the VCO, wherein the dividing value of the timing difference in the phase adjusting circuit is represented by MF/MD, and an accumulation operation is performed in units of MF every frequency-divided clock. If the cumulative result by MF is equal to or greater than MD, then a remainder obtained by dividing the cumulative result by MD is adopted as the cumulative result and the dividing ratio of the frequency dividing circuit (15) is set to N+1. A control signal for setting the dividing ratio of the timing difference in the phase adjusting circuit (16) is output to the phase adjusting circuit, and a clock obtained by frequency-dividing the output of the VCO in accordance with a dividing ratio N+MF/MD is input to a phase comparator (11). <IMAGE>

IPC 1-7  
**H03L 7/197**; **H03L 7/081**

IPC 8 full level  
**H03L 7/08** (2006.01); **H03L 7/081** (2006.01); **H03L 7/089** (2006.01); **H03L 7/183** (2006.01); **H03L 7/197** (2006.01)

CPC (source: EP KR US)  
**H03L 7/08** (2013.01 - KR); **H03L 7/081** (2013.01 - EP US); **H03L 7/0891** (2013.01 - EP US); **H03L 7/1978** (2013.01 - EP US)

Citation (search report)

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**EP 1184988 A2 20020306**; **EP 1184988 A3 20040331**; **EP 1184988 B1 20070228**; CN 1190898 C 20050223; CN 1338823 A 20020306; DE 60126873 D1 20070412; DE 60126873 T2 20071108; JP 2002057578 A 20020222; JP 3415574 B2 20030609; KR 100389666 B1 20030627; KR 20020013738 A 20020221; TW I226151 B 20050101; US 2002033738 A1 20020321; US 2003112079 A1 20030619; US 6614319 B2 20030902

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